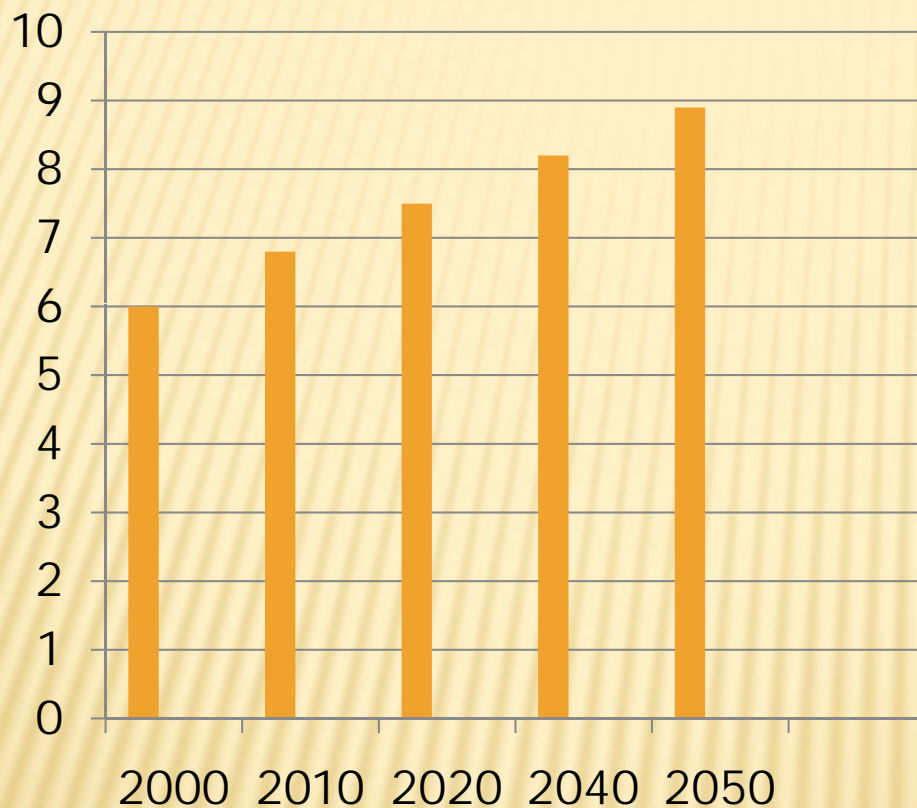




ORGANIC

A Better Understanding

World Population In Billions



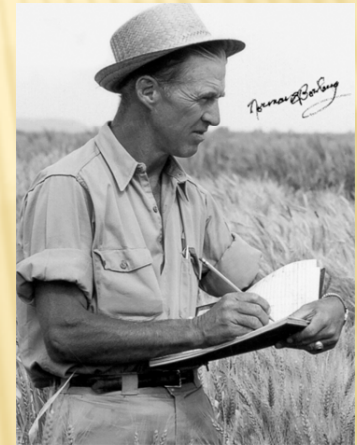
Population

+50%
Increase



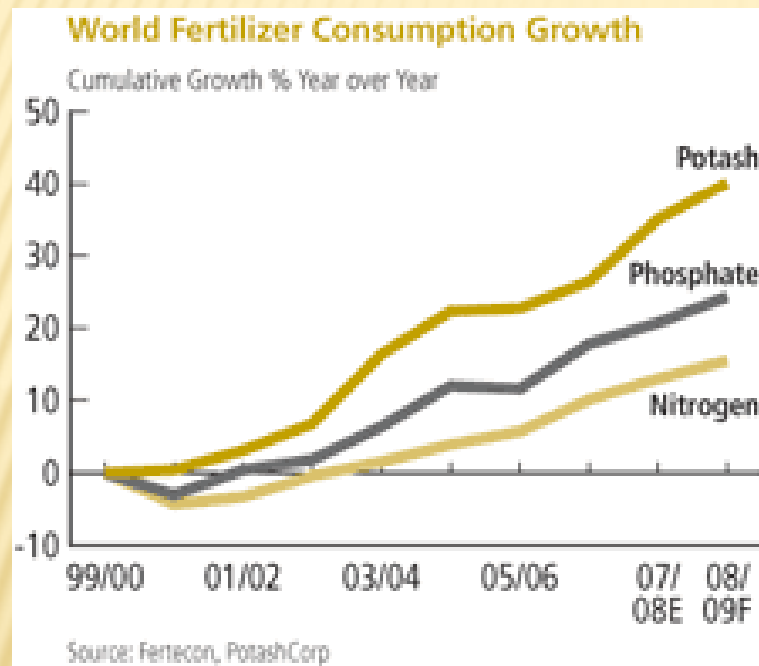
X 50

High Intensity Farming

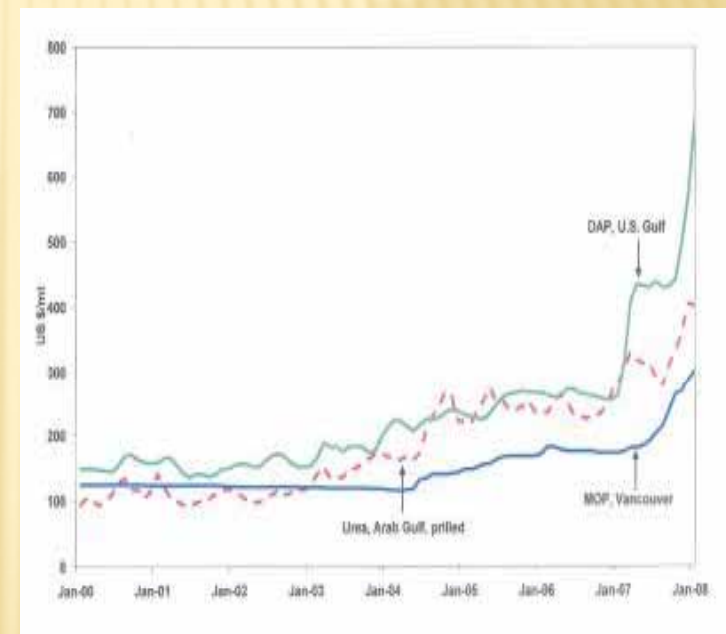


*"Without chemical
fertilizer, forget it,
the game is over"*
Norman Borlaug
Nobel Peace Prize 1970

FERTILIZER ECONOMICS 101



Worldwide Fertilizer
Usage



Fertilizer Price

The concept of organic agriculture
is not what most people think



*Organic agriculture is not a
throwback or a regressive form of
farming.*

J. I. Rodale

Laid the foundation for organic sustainable agriculture with concepts and practices derived from:



Rodale photos



William Albrerect- Agronomist



Louis Bromfield- Writer/Conservationist



Sir Albert Howard- Father of Organic Agriculture

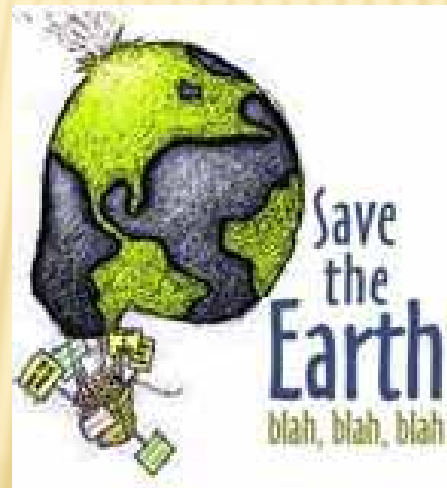
FUNDAMENTALS OF ORGANIC AGRICULTURE

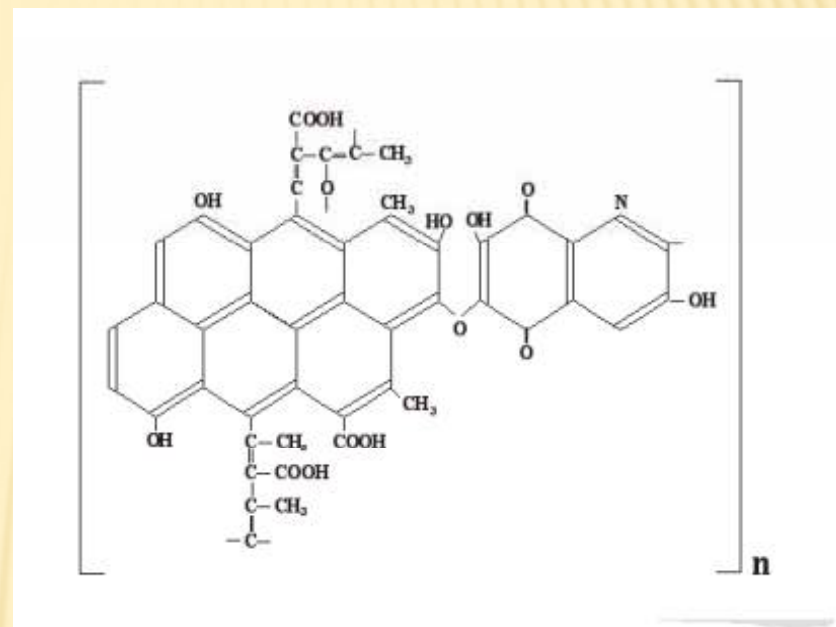
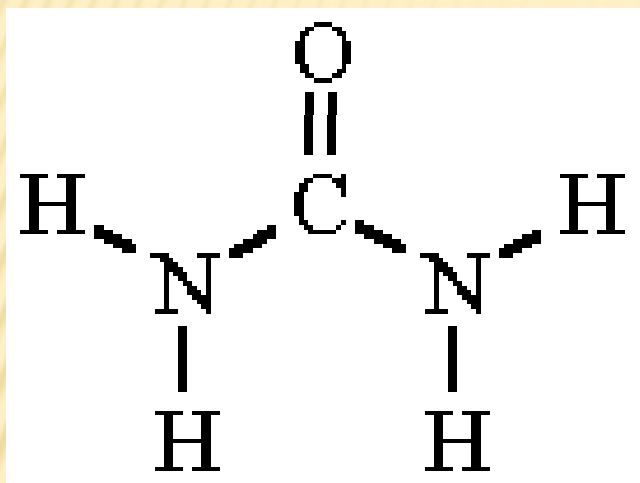
- ❖ Building Soil Fertility
- ❖ Deep Rooting Plants
- ❖ Manage Crop Residues
- ❖ Green Manuring
- ❖ Composting
- ❖ Crop Rotations
- ❖ Mulching

A Milestone In The Recognition Of Organic Farming



EARTH DAY





An organic compound is any member of a large class of chemical compounds whose molecules contain carbon

ORGANIC



UREA

ORGANIC



WHAT IS ORGANIC?

The Organic Food Production Act of 1990



NOPA

NATIONAL ORGANIC PROGRAM STANDARDS
ESTABLISHED OCTOBER 21, 2002

DEVELOPED BY THE

NOSB

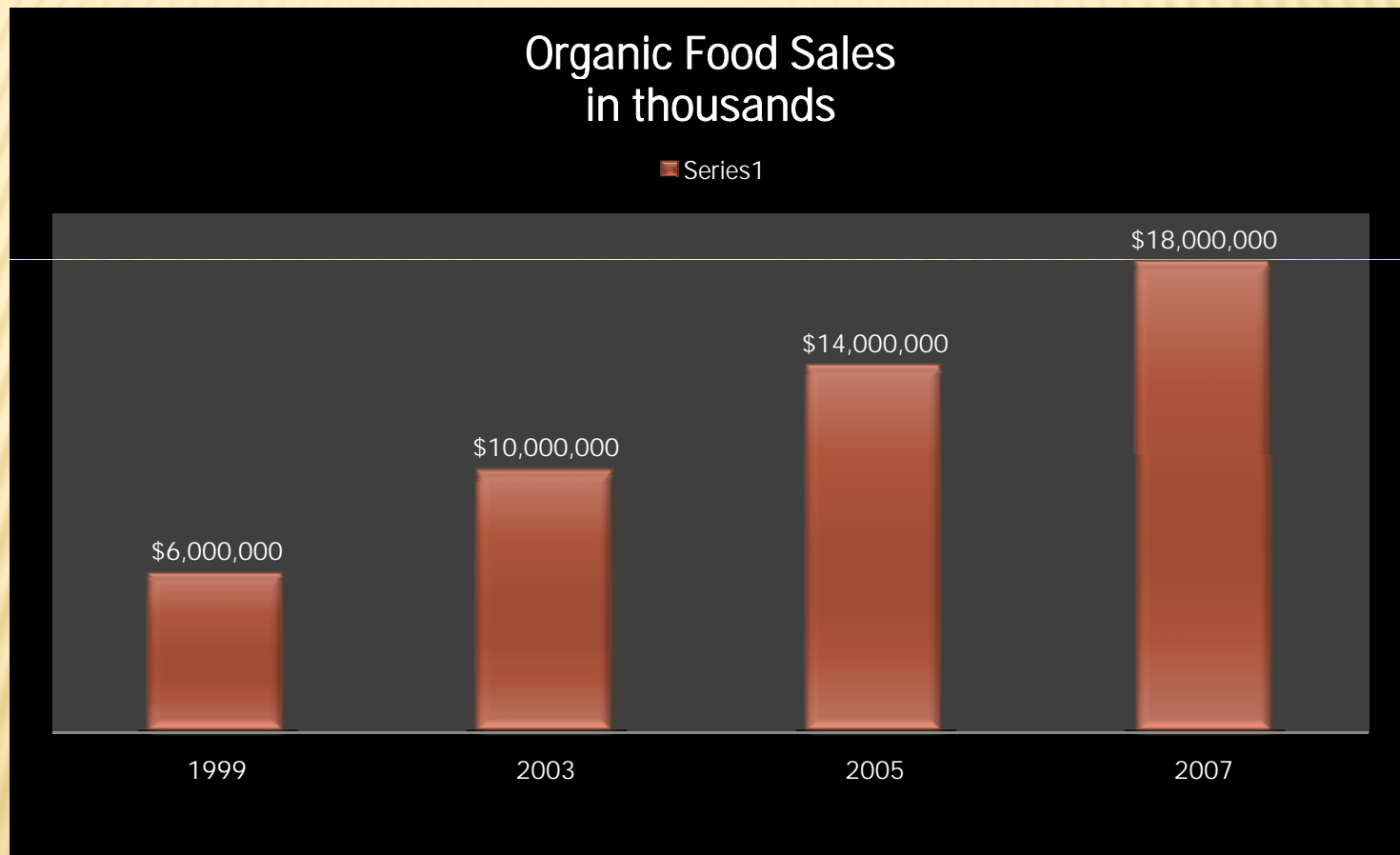
NATIONAL ORGANIC STANDARDS BOARD

GUARANTEED BY THE

USDA

UNITED STATES DEPARTMENT OF
AGRICULTURE

ORGANIC FOOD PRODUCTION



ORGANIC FOOD DISTRIBUTION AND SALES



| 1999 | 2003 | 2007 |
|-------|---------|--------|
| \$6.5 | \$10.4 | \$18.0 |
| | BILLION | |

Advantages of Organic Farming

- *Lowers input costs*
- *Conserves nonrenewable resources*
- *Captures high value markets*
- *Boosts farm income*

CERTIFIED ORGANIC ACERAGE UNITED STATES

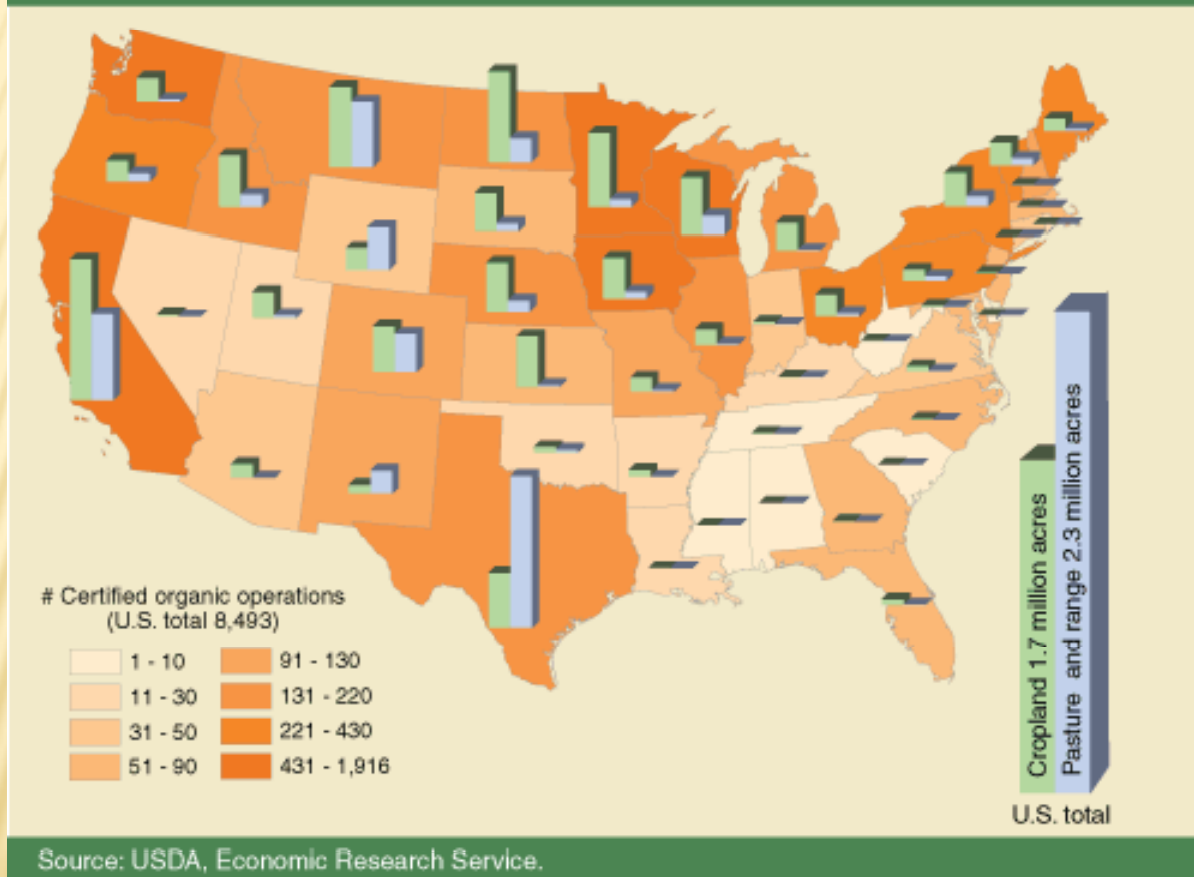
| 1992 | 2000 | 2002 | 2005 |
|---------|-----------|-----------|-----------|
| 935,450 | 1,776,073 | 3,045,109 | 4,054,429 |



Organic
Program
Standards

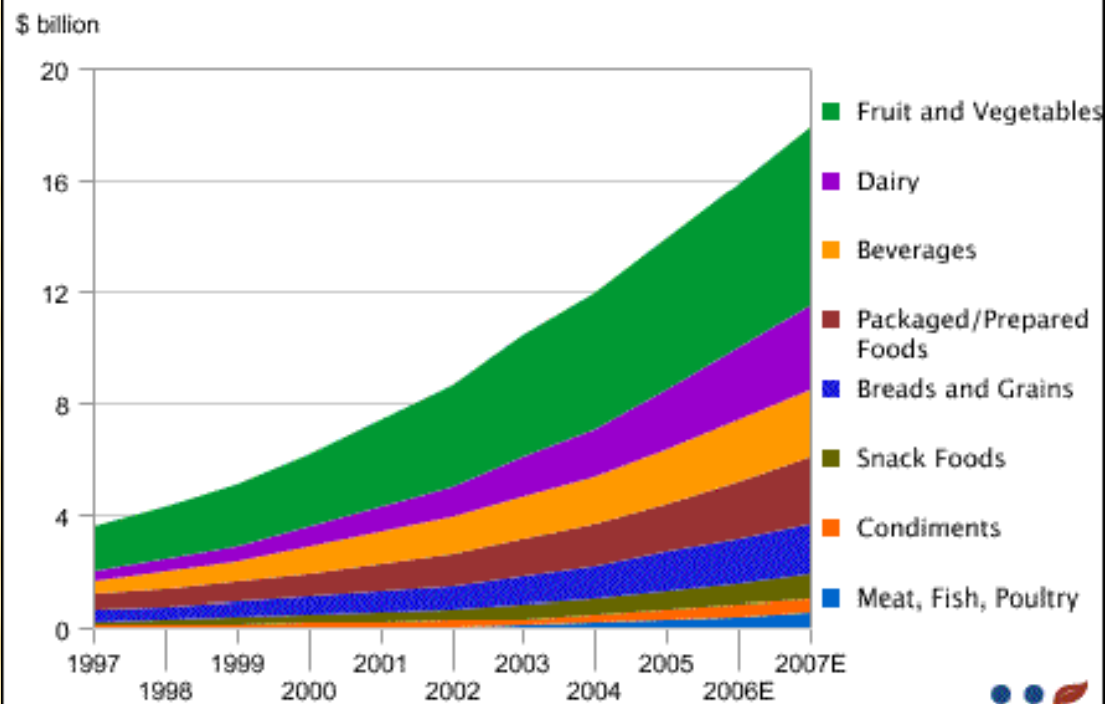
CERTIFIED ORGANIC ACRES BY STATE

For the first time, all 50 States have some certified organic acreage, 2005



ORGANIC FOOD BY MARKET SHARE

Fruits and vegetables accounted for 39 percent of U.S. organic food sales in 2005



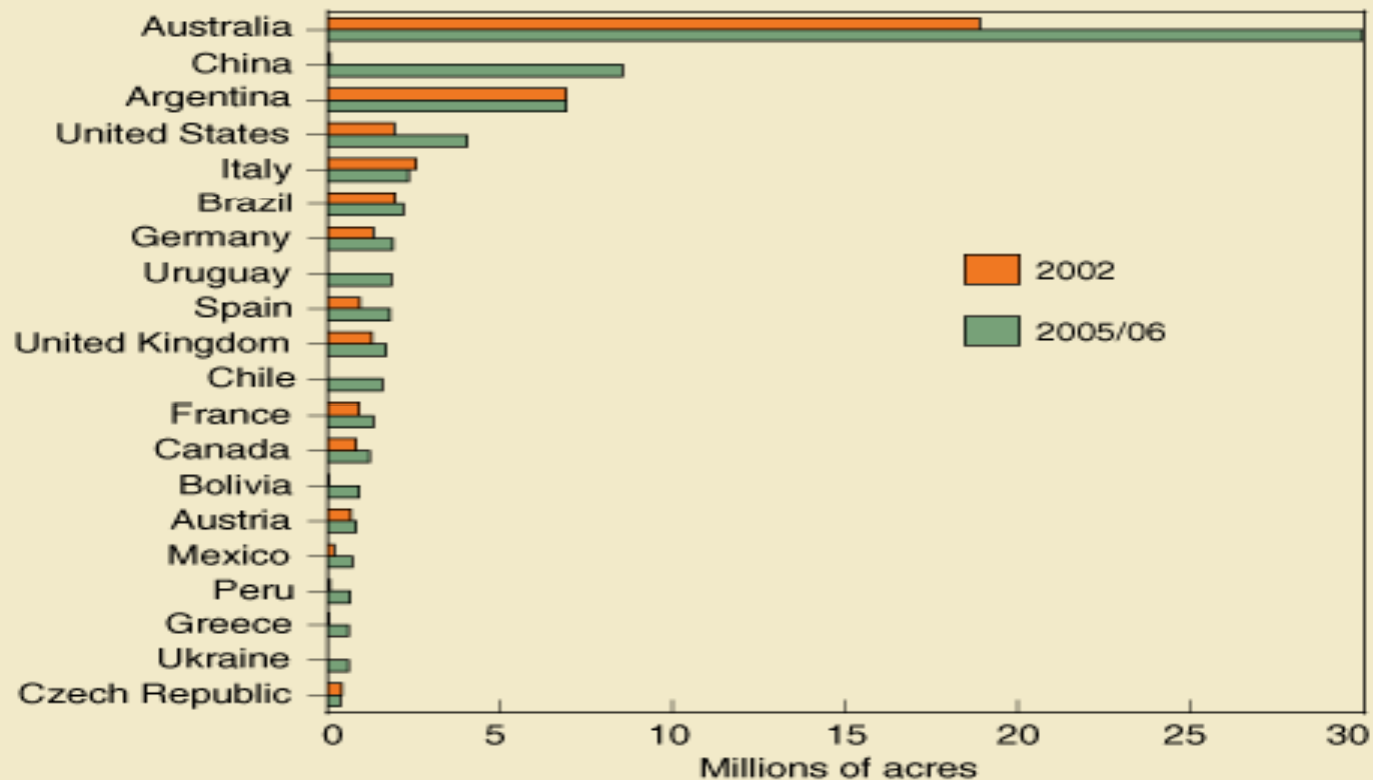
E = Estimate.

Source: Nutrition Business Journal.



CERTIFIED FARMLAND WORLDWIDE

Certified organic farmland is increasing worldwide—U.S. ranks fourth among the top 20 countries



Source: 2002 Survey, Stiftung Ökologie & Landbau (SÖL); 2005-06 Survey, Research Institute of Organic Agriculture (FiBL).

ADOPTION RATE OF CERTIFIED ORGANIC ACRES

| 2005 Organic Acres | 2005 Total Acres | % |
|--------------------|------------------|-----|
| 4,054,429 | 796,436,717 | .51 |

Obstacles to adoption

- High managerial costs
- Risks of shifting to a new way of farming
- Limited awareness of organic farming systems
- Lack of marketing infrastructure
- Inability to capture marketing economies

SUSTAINABLE AGRICULTURE



Large CAFO with Modern Manure Management



Feed Going In.....Manure Coming Out



LARGE SCALE MANURE OPERATION



Laying Hens



Loading Manure from Layer House

Composting Building



Composting Manure



Finished Manure Compost



Manure Compost Screening



Manure Granulation Process



Manure Granulation



Granulated Organic Fertilizer



High Density Dust Free Organic Fertilizer

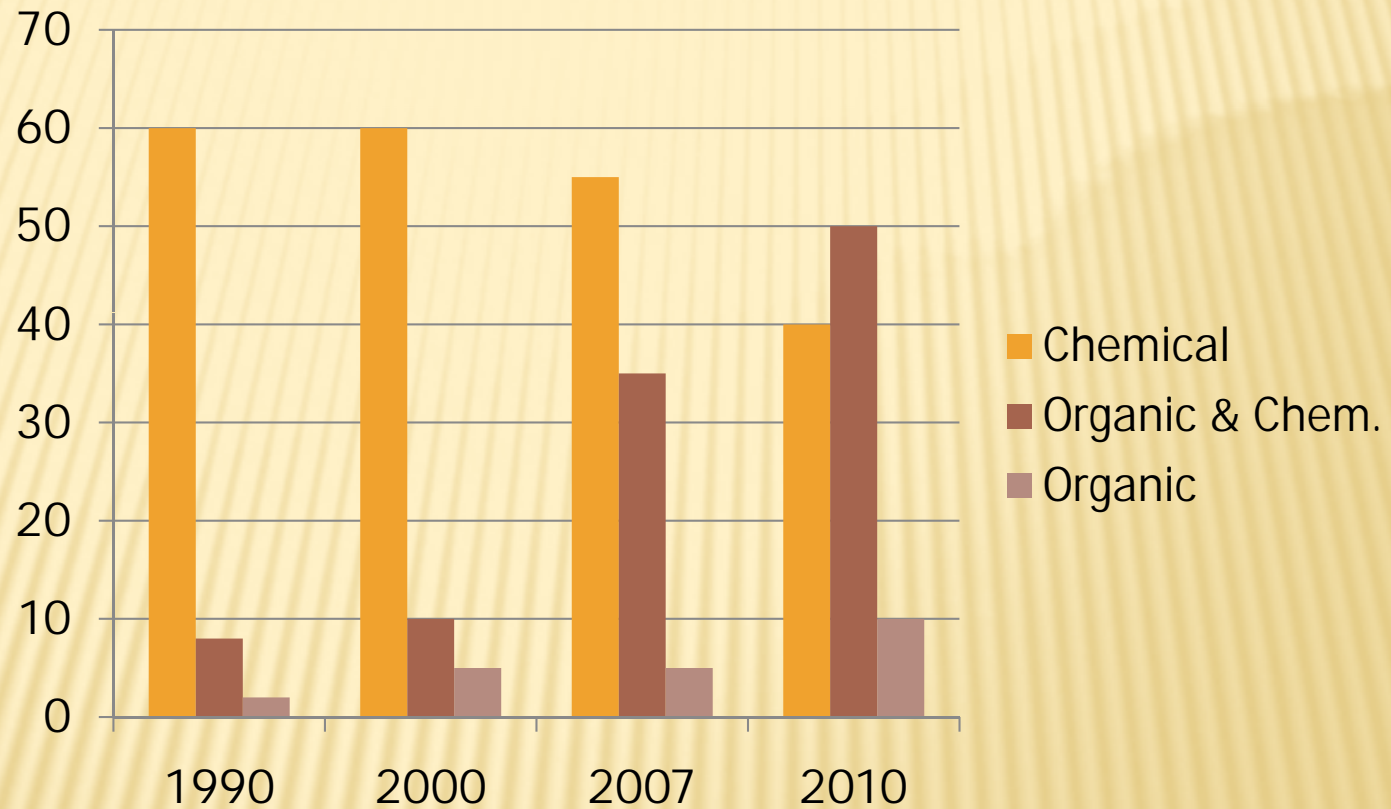


Large Organic Farm

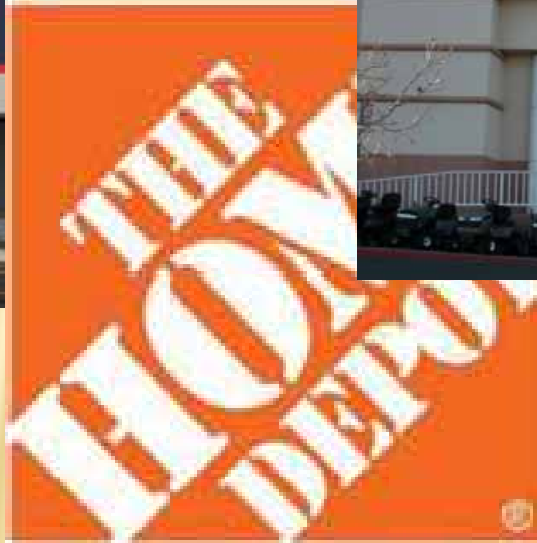


Organic Growth in Consumer Retail Markets

Gardeners in Millions



Organic Acceptance in Retail



Organic Fertilizer Specialty Market



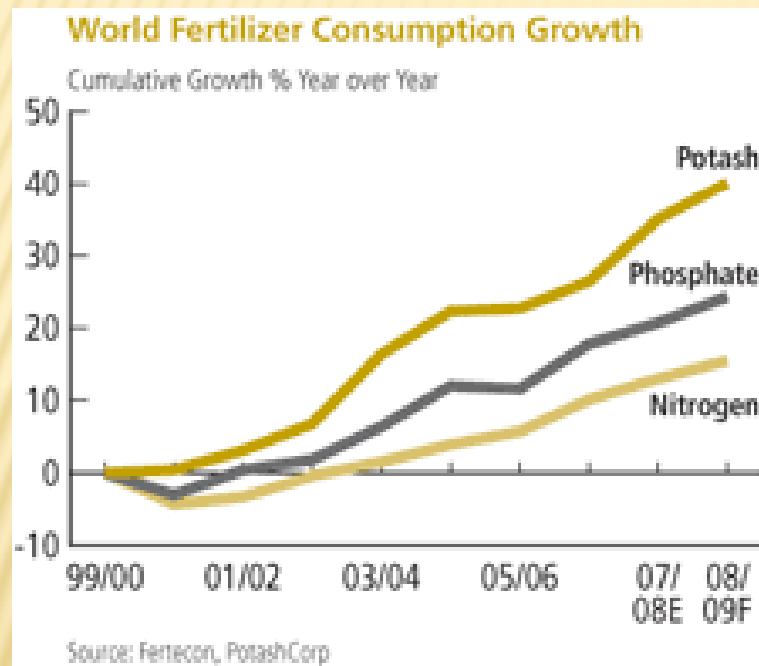
Organic Lawn Care and Golf



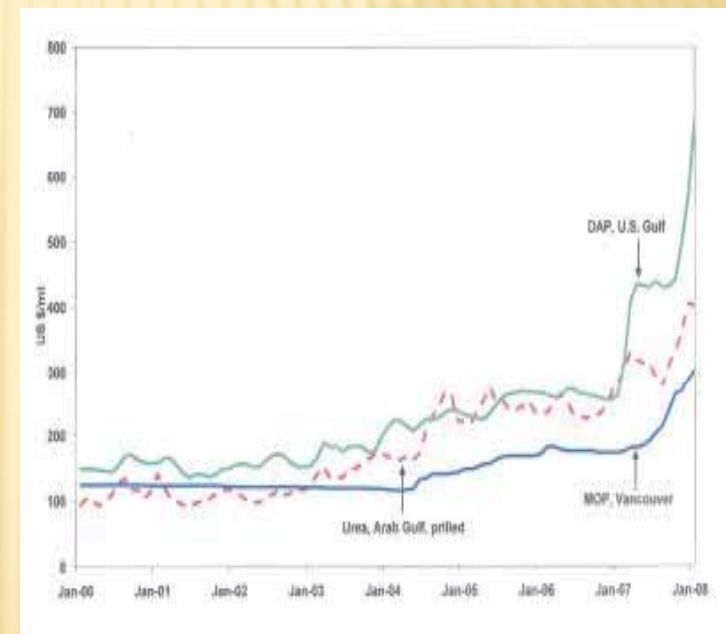
Current Organic Market

- Regulations in Place
- New Technology Available
- Organic Techniques Popular / Profitable
- All Organic Markets Growing
- Infrastructure For Organic Products Improving

FERTILIZER ECONOMICS 101



Worldwide Fertilizer
Usage



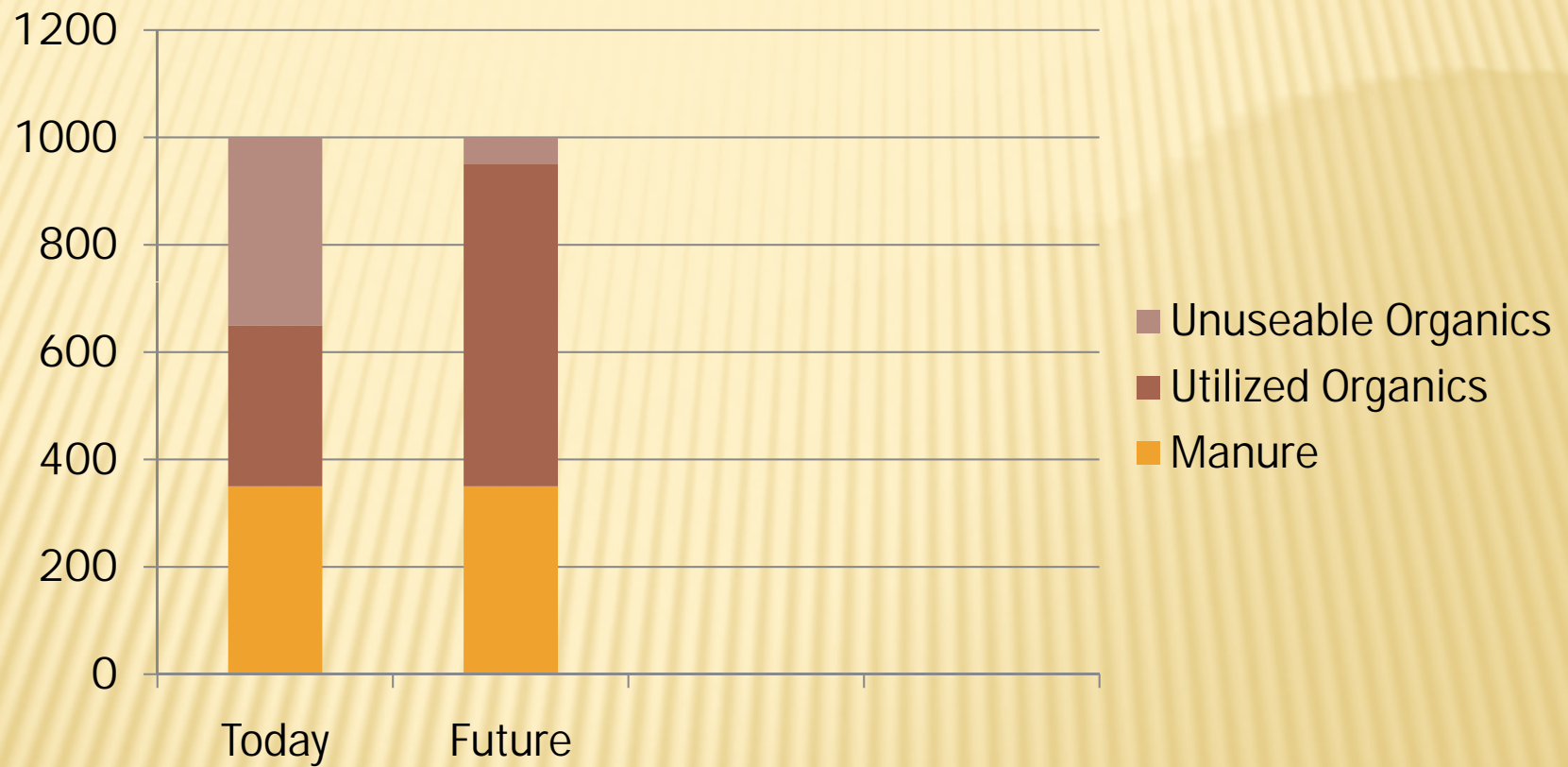
Fertilizer Price

ORGANIC WASTE STREAMS

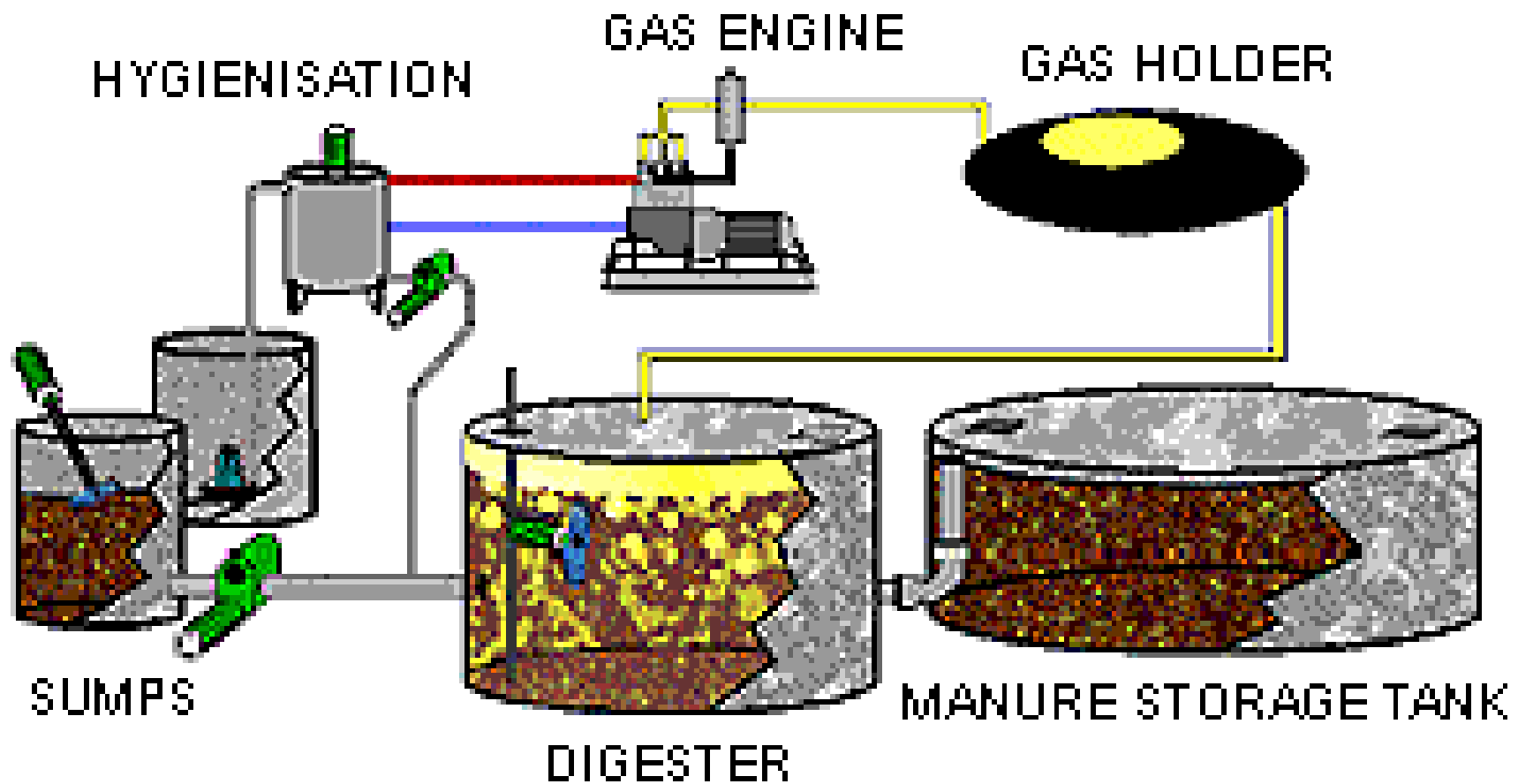


Organic Waste Utilization

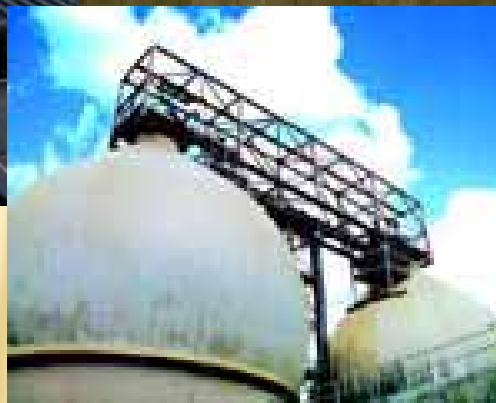
In Millions of Tons



Organic Fertilizer Promotes Renewable Energy



Renewable Energy Projects





mark.nuzum@verizon.net